

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed July 14, 2006 ("Office Action"). To clarify various aspects of inventive subject matter, Applicant amends Claims 1, 25, 28, 32, 38, 43, 49, 64, 71, 94, 100, 101, 104, 107, 112, and 115. Applicant also introduces new Claims 117-174 and cancels Claims 2-4, 23, 30-31, 33-34, 37, 39-42, 44-46, 50, 53-63, 65-70, 73-75, 85, 89-92, 95-99, 102-103, 105-106, 108-111, 113-114, and 116 without prejudice or disclaimer. To advance prosecution of this application, Applicant has responded to each notation by the Examiner. Applicant submits that all of the pending claims are allowable over the cited references. Applicant respectfully requests reconsideration, further examination, and favorable action in this case.

Subject Matter Indicated as Allowable

Applicant notes with appreciation the Examiner's statement that Claim 31 contains allowable subject matter and would be allowed if rewritten in independent form. Although Applicant believes all original claims are allowable, to expedite issuance of this application Applicant has rewritten independent Claim 1 to include elements similar to those from allowable Claim 31. Moreover, Applicant has amended independent Claims 32, 38, 43, 49, 64, and 71 to include elements similar to those from allowable Claim 31. Applicant also introduces new independent Claim 117 that includes subject matter similar to allowable Claim 31. Accordingly, Applicant respectfully requests reconsideration and allowance of independent Claims 50, 62, and 145-148, and all claims depending therefrom.

Claim Rejections – 35 U.S.C. §112

The Examiner rejects Claims 58-63 and 109 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner rejects Claims 23, 58-63, 85, and 109 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Without addressing the veracity of the Examiner's art rejections, and solely for the purpose of advancing this case expeditiously to issuance, Applicant cancels claims 23, 58-63, 85, and 109, rendering this rejection moot.

Rejections under – 35 U.S.C. §102

The Examiner rejects Claims 1, 17, 43, 45, 49, 71, 92, 96-97, 103, 105, 108, and 116 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,450,554 issued to Steensma et al. (“*Steensma*”). Applicant respectfully traverses these claim rejections for the reasons discussed below.

Applicant provides a reminder that “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. § 2131. In addition, “[t]he elements *must* be arranged as required by the claim.” *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131 (emphasis added).

Among other features, amended independent Claim 1 recites, in part, that “at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength.” Amended independent Claim 1 also recites, in part, that “the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.”

Steensma fails to teach or suggest a number of elements of amended Claim 1. For example, nowhere does *Steensma* contemplate that at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength. Moreover, *Steensma* fails to teach or suggest that “the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden

the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.” Consequently, *Steensma* fails to teach or suggest amended Claim 1.

Applicant submits that amended independent Claim 1 is patentable over *Steensma* for at least the reasons discussed above. Thus, Applicant respectfully requests withdrawal of the rejection and full allowance of amended Claim 1 and all claims depending therefrom.

Applicant submits that independent Claims 32, 38, 43, 49, 64, 71, and 117 are patentable over *Steensma* for at least the reasons discussed above. Thus, Applicant respectfully requests withdrawal of the rejection and full allowance of amended Claims 32, 38, 43, 49, 64, 71, and 117, and all claims depending therefrom.

Rejections under – 35 U.S.C. §103

The Examiner rejects Claims 2-3, 25, 27-28, 44, 50, 53, 55-56, 73-74, 89, 93, 102, 106, and 114 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *Arthurs* ‘167. The Examiner also rejects Claims 26, 54, 94, 104, 107, and 115 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *Arthurs* ‘167 and in further view of *Suchoski*. The Examiner also rejects Claims 29, 57, and 95 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *Arthurs* ‘167 and in further view of *Bergmann*. The Examiner also rejects Claims 30, 46, and 75 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *Arthurs* ‘167 and in further view of *Knox*. The Examiner also rejects Claims 4, 23, and 90-91 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma*. The Examiner also rejects Claims 15, 47, 51, and 76 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of U.S. Patent No. 6,532,088 issued to Dantu et al., (“*Dantu*”). The Examiner also rejects Claims 16, 48, 52, 64, 69-70, 77, 111, and 113 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *O’Connor*. The Examiner also rejects Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *O’Connor* and in further view of *Suchoski*. The Examiner also rejects Claims 65, 67, and 110 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *O’Connor* and in further view of *Arthurs* ‘681. The Examiner also

rejects Claim 66 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *O'Connor* and in further view of *Knox*. The Examiner also rejects Claim 68 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *O'Connor* and in further view of *Arthurs '167*. The Examiner also rejects Claims 24, 32, 38, 40-41, and 99 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of U.S. Patent No. 6,980,747 issued to DeSalvo et al. ("*DeSalvo*"). The Examiner also rejects Claim 33-34, 39, and 98 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *DeSalvo* and in further view of *Arthurs '167*. The Examiner also rejects Claims 100-101 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *DeSalvo* and in further view of *Suchoski*. The Examiner also rejects Claims 37 and 42 under 35 U.S.C. § 103(a) as being unpatentable over *Steensma* in view of *DeSalvo* and in further view of *Knox*. Applicant respectfully traverses these claim rejections for the reasons discussed below.

A. The Proposed Combinations Fail to Disclose, Teach, or Suggest Each and Every Limitation Recited in the Independent Claims

Applicant provides a reminder that to defeat a patent under 35 U.S.C. § 103, "the prior art reference must teach, disclose, or suggest all the claim limitations." *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991); M.P.E.P. § 706.02(j). Applicant respectfully submit that none of the cited references, taken alone or in combination, teach or suggest, either expressly or inherently, a number of elements of the independent Claims.

Steensma, whether considered alone or in combination with *DeSalvo* and/or *O'Connor*, fails to disclose, teach, or suggest at least the following limitations recited in Claim 32. Among other features, Claim 32 recites, in part, that "the optical transmitter comprises a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal." Amended Claim 32 also recites, in part, that "the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength."

As discussed above, nowhere does *Steensma* contemplate that that the optical transmitter comprises a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal. Moreover, *Steensma* fails to teach or suggest that the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength. Consequently, *Steensma* fails to teach or suggest amended Claim 32.

DeSalvo fails to atone for the deficiencies of *Steensma*. For example, nowhere does *DeSalvo* contemplate that that the optical transmitter comprises a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal. Moreover, *DeSalvo* fails to teach or suggest that the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength. Consequently, *DeSalvo* fails to teach or suggest amended Claim 32.

O'Connor fails to atone for the deficiencies of *Steensma*. For example, nowhere does *O'Connor* contemplate that that the optical transmitter comprises a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal. Moreover, *O'Connor* fails to teach or suggest that the super-continuum source comprises a pulse source operable to generate a plurality of optical pulses; a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength. Consequently, *O'Connor* fails to teach or suggest amended Claim 32.

For at least these reasons, Applicant respectfully submits that *Steensma*, whether considered alone or in combination with *DeSalvo* and/or *O'Connor*, fails to disclose, teach, or suggest at least the following limitations recited in Claim 32. For at least certain analogous reasons, Applicant respectfully submits that *Steensma*, whether considered alone or in combination with *DeSalvo* and/or *O'Connor*, fails to disclose, teach, or suggest each and every limitation recited in independent Claims 1, 38, 43, 49, 64, 71, and 117, and the claims depending therefrom.

B. The Proposed Combinations are Improper

The rejection of Applicant's claims is also improper because the Examiner has not shown the required teaching, suggestion, or motivation in *Steensma*, *DeSalvo*, *O'Connor*, or in the knowledge generally available to those of ordinary skill in the art at the time of the invention to combine or modify the *Steensma*, *DeSalvo*, and/or *O'Connor* in the manner the Examiner proposes. The rejected claims are allowable for at least this additional reason.

1. The Obviousness Standard

The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed above, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention. It is clear based at least on the many distinctions discussed above that the proposed *Steensma*, *DeSalvo*, and/or *O'Connor* combination does not, taken as a whole, suggest the claimed invention, taken as a whole. Respectfully, it appears to Applicants that the Examiner has merely pieced together disjointed portions of references, with the benefit of hindsight using Applicants' claims as a blueprint, in an attempt to reconstruct Applicants' claims.

The governing Federal Circuit case law makes this strict legal standard clear.¹ According to the Federal Circuit, “a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding.” *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). “Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved.” *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the “range of sources available . . . does not diminish the requirement for actual evidence.” *Id.* ***Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.”*** *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432 (emphasis added). *See also In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (***holding a prima facie case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine***); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) (“Conspicuously missing from this record is any evidence, other than the PTO’s speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts necessary to arrive at” the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. *See In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an applicant's disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, ***“The tendency to resort to 'hindsight' based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”*** M.P.E.P. § 2142 (emphasis added). The governing Federal Circuit cases are equally clear. “A critical step in analyzing the

¹ Note M.P.E.P. 2145 X.C. (“The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.”).

patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one ‘to fall victim to the insidious effect of a hindsight syndrome *wherein that which only the invention taught is used against its teacher.*’” *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted; emphasis added). In *In re Kotzab*, the court noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. *See id.* *See also, e.g., Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board, *explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant’s invention:*

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted; emphasis added).

2. Argument

According to the Examiner, it would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of *Steensma* with *DeSalvo* and/or *O'Connor* because some proposed advantages. *See e.g.,* Office Action at 17-18. The Examiner provides no support in either the *Steensma* reference or in the *DeSalvo* and/or *O'Connor* references for this assertion. *Id.* Applicant respectfully submits that the Examiner’s assertion that it would have been obvious to modify the teachings of *Steensma* with *DeSalvo* and/or *O'Connor* to purportedly arrive at Applicant’s invention is entirely insufficient to support a *prima facie* case of obviousness under 35 U.S.C. § 103(a) under the

M.P.E.P. and the governing Federal Circuit case law. Consequently, the Examiner has not demonstrated the requisite teaching, suggestion, or motivation in either of the *Steensma* reference or the *DeSalvo* and/or *O'Connor* references to combine or modify these references in the manner the Examiner proposes.

It appears that the Examiner is merely proposing alleged advantages of modifying *Steensma* with *DeSalvo* and/or *O'Connor* (advantages which Applicant does not admit could even be achieved by combining these references in the manner the Examiner proposes). While the Examiner has cited portions of *Steensma* with *DeSalvo* and/or *O'Connor* the Examiner has not pointed to any portions of the cited references or to knowledge supposedly generally available to those of ordinary skill in the art at the time of the invention that would teach, suggest, or motivate one of ordinary skill in the art at the time of invention to modify the system disclosed in *Steensma* as suggested by the Examiner. In other words, the alleged advantage of the system described by the Examiner does not provide an explanation as to: (1) why it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention (*without using Applicants' claims as a guide*) to modify the particular techniques disclosed in *Steensma* as suggested by the Examiner; (2) how one of ordinary skill in the art at the time of Applicant's invention would have actually done so; and (3) how doing so would purportedly meet the limitations of Claims 32, 38, and 64. Indeed, if it were sufficient for Examiners to merely point to a purported advantage of one reference and conclude that it would have been obvious to combine or modify that reference with other references simply based on that advantage (which, as should be evident from the case law discussed above, it certainly is not), then virtually any two references would be combinable just based on the fact the one reference states an advantage of its system. Of course, as the Federal Circuit has made clear and as discussed above, that is not the law.

It certainly would not have been obvious to one of ordinary skill in the art at the time of invention *to even attempt* to, let alone *to actually*, modify or combine the apparatus disclosed in *Steensma* with the teachings of *DeSalvo* and/or *O'Connor* in the manner proposed by the Examiner.² Applicant respectfully submits that the Examiner's attempt to

² If "common knowledge" or "well known" art is relied upon by the Examiner to combine or modify the references, Applicant respectfully requests that the Examiner provide a reference pursuant to M.P.E.P. § 2144.03 to support such an argument. If the Examiner relies on personal knowledge to supply the required

modify or combine *Steensma* with the teachings of *DeSalvo* and/or *O'Connor* appears to constitute the type of impermissible hindsight reconstruction of Applicant's claims, using Applicant's claims as a blueprint, that is specifically prohibited by the M.P.E.P. and governing Federal Circuit cases.

Accordingly, since the prior art fails to provide the required teaching, suggestion, or motivation to modify *Steensma* in the manner the Examiner proposes, Applicant respectfully submits that the Examiner's conclusions set forth in the Office Action do not meet the requirements set forth in the M.P.E.P. and the governing Federal Circuit case law for demonstrating a *prima facie* case of obviousness. Applicant respectfully submits that the rejection must therefore be withdrawn.

For at least these additional reasons, Applicant respectfully submits that the proposed combination of *Steensma* with *DeSalvo* and/or *O'Connor* does not support a *prima facie* case of obviousness.

C. Conclusion

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 32 and its dependent claims. For at least certain analogous reasons, Applicants respectfully request reconsideration and allowance of independent Claims 38 and 64, and their dependent claims.

No Waiver

All of Applicant's arguments and amendments are without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the *Arthurs '167* and *'681*, *Suchoski*, *Bergmann*, *Steensma*, *O'Connor*, *Knox*, *Dantu*, and *DeSalvo* references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicant does not acquiesce to the Examiner's additional

motivation or suggestion to combine or modify the references, Applicant respectfully requests that the Examiner provide an affidavit supporting such facts pursuant to M.P.E.P. § 2144.03.

statements. The example distinctions discussed by Applicant are sufficient to overcome the anticipation rejections.

CONCLUSION

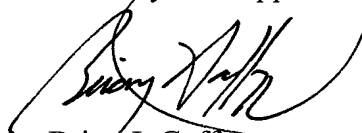
Applicant has made an earnest attempt to place this case in condition for allowance. Because this Amendment places all claims in condition for allowance or at least in a better condition for appeal, Applicants respectfully request that this Amendment be entered.

Applicant hereby requests a one (1) month Extension of Time and have attached hereto a separate Notification of Extension of Time Under 37 C.F.R. § 1.136 for one (1) month from October 14, 2006 to November 14, 2006 along with authorization to charge the Extension of Time fee of \$60.00 to Deposit Account 02-0384 of Baker Botts L.L.P. Applicant believes that no other fee is due; however, the Commissioner is hereby authorized to charge any additional fee or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

If the Examiner feels that a conference would advance prosecution of this Application in any manner, Brian J. Gaffney stands willing to conduct such a telephone interview at the convenience of the Examiner. Mr. Gaffney may be reached at (214) 953-6682.

Respectfully submitted,

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